Fig 1.

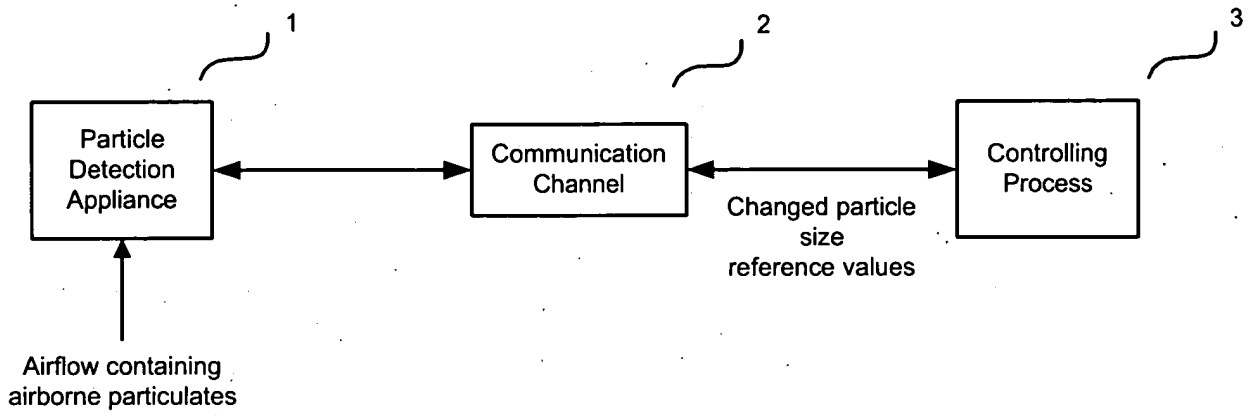

1
2
3
Particle Detection Appliance
Communication Channel
Controlling Process
Changed particle size reference values
Airflow containing airborne particulates

Fig 2.

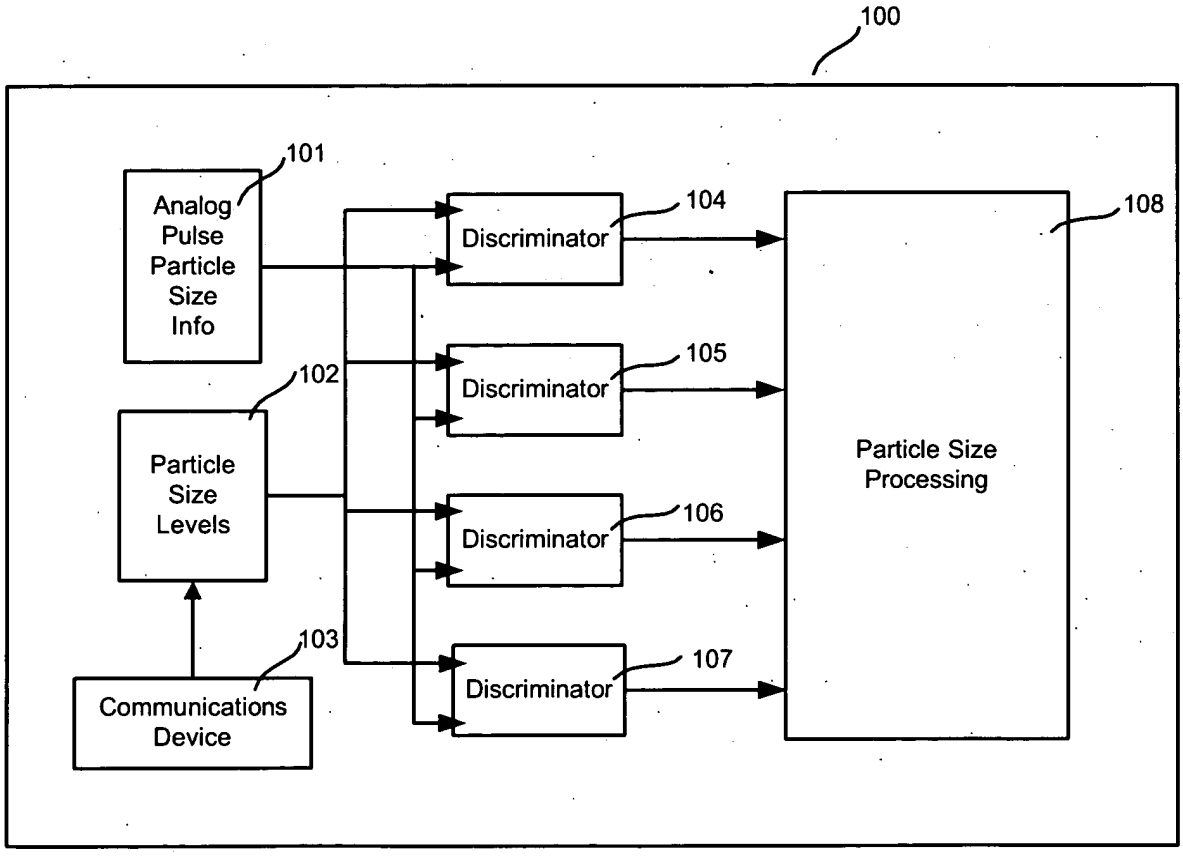

100
101
Analog Pulse Particle Size Info
102
Particle Size Levels
103
Communications Device
Discriminator
104
Discriminator
105
Discriminator
106
Discriminator
107
108
Particle Size Processing

Fig 3.

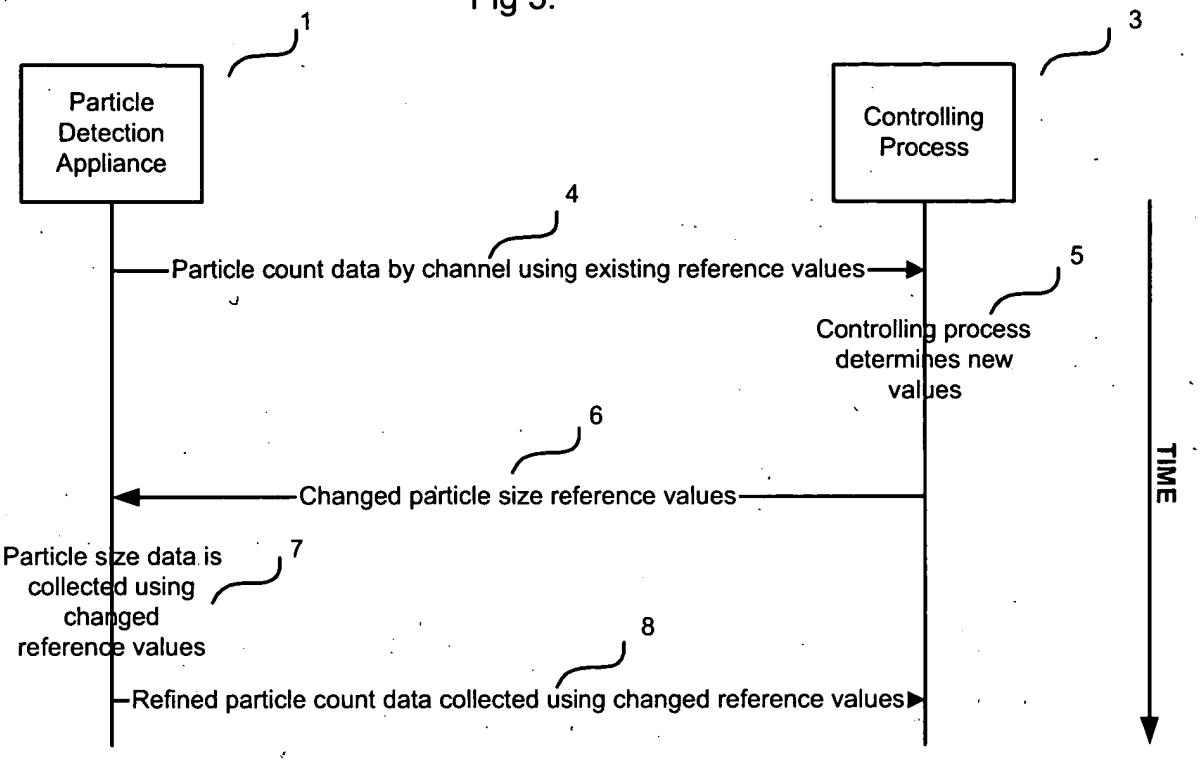

1
Particle Detection Appliance
3
Controlling Process
4
Particle count data by channel using existing reference values
5
Controlling process determines new values
6
Changed particle size reference values
TIME
Particle size data is collected using changed reference values
7
8
Refined particle count data collected using changed reference values

Fig 4.

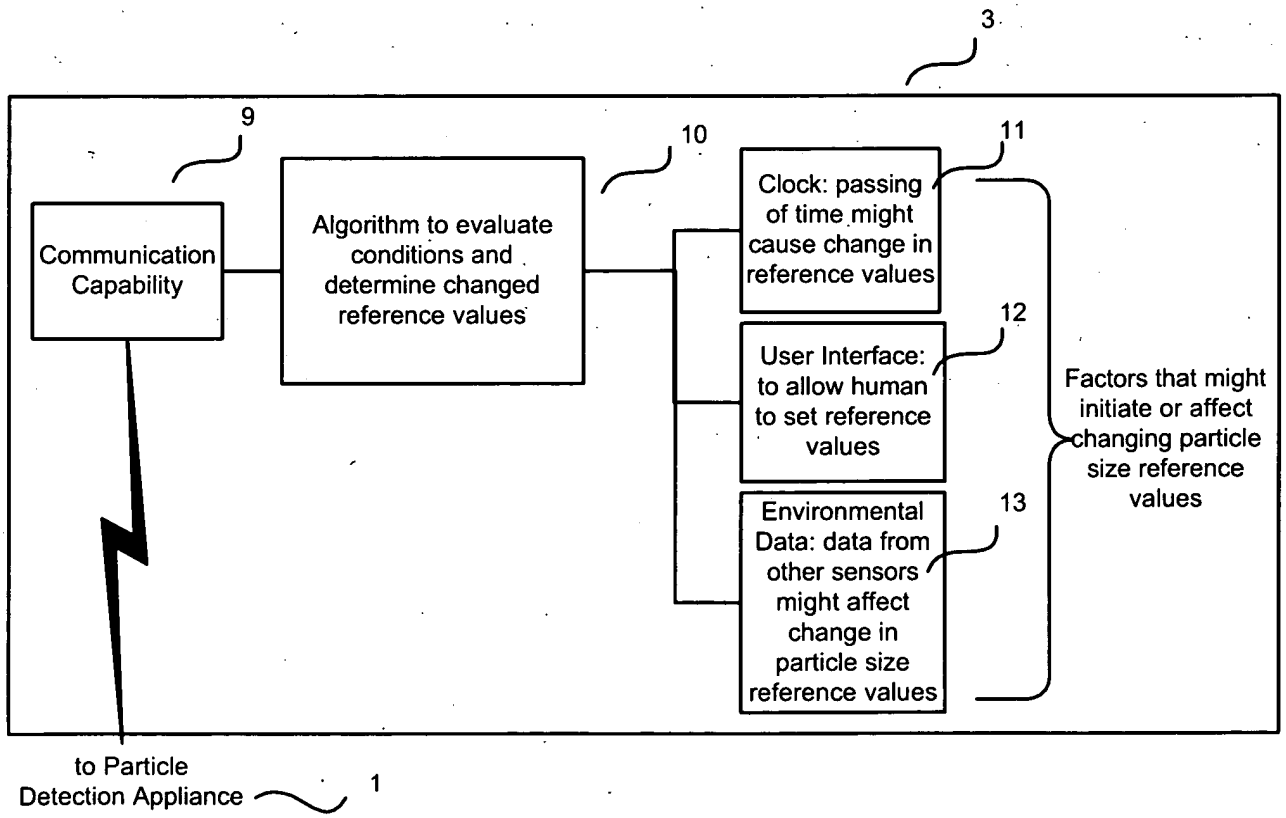
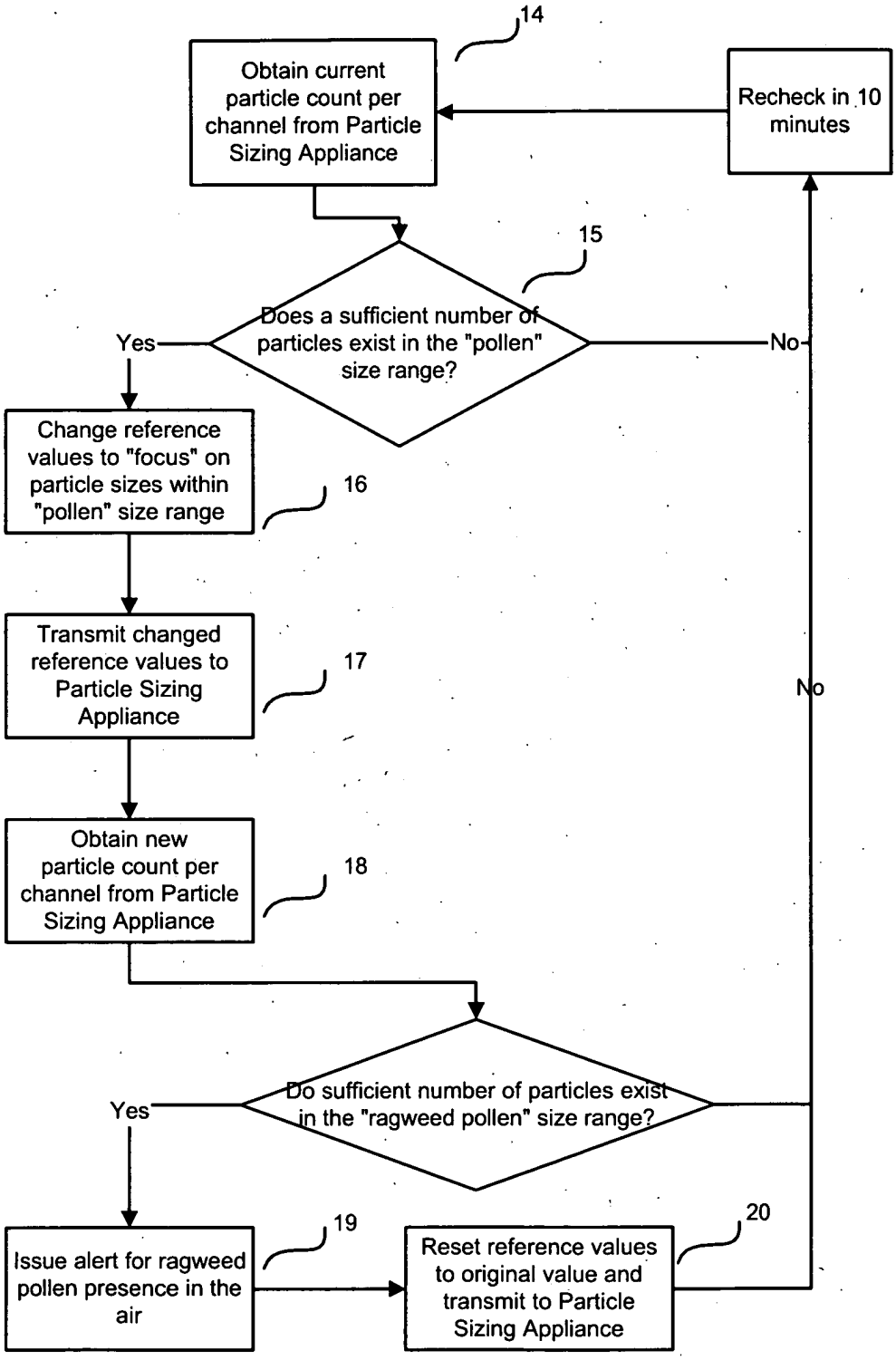

3
9
Communication Capability
10
Algorithm to evaluate conditions and determine changed reference values
11
Clock: passing of time might cause change in reference values
12
User Interface: to allow human to set reference values
13
Environmental Data: data from other sensors might affect change in particle size reference values
Factors that might initiate or affect changing particle size reference values
to Particle Detection Appliance
1

Fig 5.


14
Obtain current particle count per channel from Particle Sizing Appliance
Recheck in 10 minutes
15
Does a sufficient number of particles exist in the "pollen" size range?
Yes
No
Change reference values to "focus" on particle sizes within "pollen" size range
16
Transmit changed reference values to Particle Sizing Appliance
17
Obtain new particle count per channel from Particle Sizing Appliance
18
Do sufficient number of particles exist in the "ragweed pollen" size range?
Yes
No
Issue alert for ragweed pollen presence in the air
19
Reset reference values to original value and transmit to Particle Sizing Appliance
20